



SEQUENCE LISTING

<110> Indimalla, Ekambar R.  
Zhao, Qiuyan  
Yu, Dong  
Agrawal, Sudhir

<120> Modulation of Immunostimulatory Activity of Immunostimulatory  
Modified oligodeoxynucleotide phosphorothioate Analogs by  
Positional Chemical Changes

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<140> US 09/965,116

<141> 2001-09-26

<150> US 09/712,898

<151> 2000-11-15

<150> US 60/235,452

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<223> 3'-3' linkage

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tcccagcgtg cgccattacc gcgtgcgacc ct                                     32

<210> 81
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 5
<223> c = beta-L-Deoxynucleoside

<400> 81

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ctatctgacg ttctctgt

18

<210> 82

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 14

<223> t = beta-L-Deoxynucleoside

<400> 82

ctatctgacg ttctctgt

18

<210> 83

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 4, 5

<223> t at position 4 = beta-L-Deoxynucleoside

c at position 5 = beta-L-Deoxynucleoside

<400> 83

ctatctgacg ttctctgt

18

<210> 84

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 14, 15

<223> t at position 14 = beta-L-Deoxynucleoside

c at position 15 = beta-L-Deoxynucleoside

<400> 84

ctatctgacg ttctctgt

18

<210> 85

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base

```

<222> 9, 10
<223> c at position 9 = beta-L-Deoxynucleoside
      g at position 10 = beta-L-Deoxynucleoside

<400> 85
ctatctgacg ttctctgt                                     18

<210> 86
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 7
<223> g = beta-L-Deoxynucleoside

<400> 86
ctatctgacg ttctctgt                                     18

<210> 87
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 12
<223> t = beta-L-Deoxynucleoside

<400> 87
ctatctgacg ttctctgt                                     18

<210> 88
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> (1)...(18)
<223> all nucleotides = beta-L-deoxynucleoside

<400> 88
ctatctgacg ttctctgt                                     18

<210> 89
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

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<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 5

<223> c = 2'-O-Propargyl-ribonucleoside

<400> 89

ctatctgacg ttctctgt

18

<210> 90

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 15

<223> c = 2'-O'Propargyl-ribonucleoside

<400> 90

ctatctgacg ttctctgt

18

<210> 91

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 4, 5

<223> a at position 4 = 1',2'-Dideoxyribose

c at position 5 = 1',2'-Dideoxyribose

<400> 91

cctactagcg ttctcatc

18

<210> 92

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 4, 5

<223> a at position 4 = C3-Linker

c at position 5 = C3-Linker

<400> 92

cctactagcg ttctcatc

18

<210> 93

<211> 18



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<212> DNA
<213> Artificial Sequence

<220>
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 4, 5
<223> a at position 4 = 3'-methoxyribonucleoside
      c at position 5 = 3'-methoxyribonucleoside

<400> 93
cctactagcg ttctcatc
18

<210> 94
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 4, 5, 12
<223> a at position 4 = 1',2'-Dideoxyribose
      c at position 5 = 1',2'-Dideoxyribose
      t at position 12 = 2'-methoxyribonucleoside

<400> 94
cctactagcg ttctcatc
18

<210> 95
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<400> 95
cctactagcg ttctcatc
18

<210> 96
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 10
<223> g = 7-deazaguanine

<400> 96
ctatctgacg ttctctgt
18

<210> 97

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<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 9
<223> g = 7-deazaguanine

<400> 97
ctatctgagc ttctctgt                                     18

<210> 98
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<400> 98
tctcccagcg tgcgccat                                     18

<210> 99
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 10,14
<223> g at positions 10 and 14 = 7-deazaguanine

<400> 99
tctcccagcg tgcgccat                                     18

<210> 100
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 5
<223> c = C3-Linker

<221> modified_base
<222> 10
<223> g = 7-deazaguanine

<400> 100
ctatctgacg ttctctgt                                     18

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<210> 101  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
 <222> 10  
 <223> g = 6-thioguanine

<400> 101  
 ctatctgacg ttctctgt 18

<210> 102  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
 <222> 9  
 <223> g = 6-thioguanine

<400> 102  
 ctatctgagc ttctctgt 18

<210> 103  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
 <222> 9  
 <223> c = 4-thiouridine

<400> 103  
 ctatctgacg ttctctgt 18

<210> 104  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
 <222> 5  
 <223> c = 1,2-Dideoxyribose

<221> modified\_base  
 <222> 9  
 <223> c = 4-thiouridine

<400> 104  
 ctatctgacg ttctctgt

18

<210> 105  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
 <222> 9  
 <223> c = Ara-C

<400> 105  
 ctatctgacg ttctctgt

18

<210> 106  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
 <222> 10  
 <223> c = Ara-C  
 <400> 106  
 ctactctgac cttctctgt

19

<210> 107  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base  
 <222> 9  
 <223> c = 1',2'-Dideoxyribose

<400> 107  
 ctatctgacg ttctctgt

18

<210> 108  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> modified oligodeoxynucleotide phosphorothioate

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<221> modified_base
<222> 8
<223> a = 1',2'-Dideoxyribose

<400> 108
ctatctgacg ttctctgt 18

<210> 109
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 6
<223> t = 1',2'-Dideoxyribose

<400> 109
ctatctgacg ttctctgt 18

<210> 110
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 4
<223> t = 1',2'-Dideoxyribose

<400> 110
ctatctgacg ttctctgt 18

<210> 111
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 11
<223> t = 1',2'-Dideoxyribose

<400> 111
ctatctgacg ttctctgt 18

<210> 112
<211> 18
<212> DNA
<213> Artificial Sequence

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<220>

<223> modified oligodeoxynucleotide phosphorothioate

<221> modified\_base

<222> 13

<223> c = 1',2'-Dideoxyribose

<400> 112

ctatctgacg ttctctgt

18